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Report of the technical review of the sixth national communication of Slovenia

Parties included in Annex I to the Convention are requested, in accordance with decision 9/CP.16, to submit a sixth national communication to the secretariat by 1 January 2014. In accordance with decision 7/CMP.8, Parties included in Annex I to the Convention that are also Parties to the Kyoto Protocol shall include in their sixth national communication supplementary information under Article 7, paragraph 2, of the Kyoto Protocol. In accordance with decision 15/CMP.1, these Parties shall start reporting the information under Article 7, paragraph 1, of the Kyoto Protocol with the inventory submission due under the Convention for the first year of the commitment period. This includes supplementary information on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol.

This report presents the results of the technical review of the sixth national communication and supplementary information under the Kyoto Protocol of Slovenia conducted by an expert review team in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention" and the "Guidelines for review under Article 8 of the Kyoto Protocol".

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I. Introduction and summary

A. Introduction

1. For Slovenia, the Convention entered into force on 29 February 1996 and the Kyoto Protocol on 16 February 2005. Under the Convention, Slovenia made a commitment to contribute to the joint European Union (EU) economy-wide emission reduction target of 20 per cent below the 1990 level by 2020. Under the Kyoto Protocol, Slovenia committed itself to reducing its greenhouse gas (GHG) emissions by 8 per cent compared to the base year[1] level during the first commitment period, from 2008 to 2012. For the second commitment period of the Kyoto Protocol, from 2013 to 2020, Slovenia committed to contribute to the joint EU commitment[2] to reduce GHG emissions by 20 per cent.

2. This report covers the centralized technical review of the sixth national communication (NC6) of Slovenia, coordinated by the secretariat, in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention" (decision 23/CP.19) and the "Guidelines for review under Article 8 of the Kyoto Protocol" (decision 22/CMP.1).

3. The review took place from 5 to 10 May 2014 in Bonn, Germany, and was conducted by the following team of nominated experts from the UNFCCC roster of experts: Ms. Eglantina Bruci (Albania), Mr. Oyvind Christophersen (Norway), Mr. Sorin Deaconu (Romania), Ms. Agnieszka Maria Janowska (Poland), Mr. Robert Jeszke (Poland), Mr. Bundit Limmeechokchai (Thailand), Ms. Jenny Mager (Chile), Mr. Erick Wamalwa Masafu (Kenya), Mr. Alexander Storch (Austria), Mr. Daniel Tutu Benefoh (Ghana), Mr. Goran Vukmir (Bosnia and Herzegovina) and Mr. Pavel Zámyslický (Czech Republic). Ms. Janowska and Mr. Tutu Benefoh were the lead reviewers. The review was coordinated by Mr. Matthew Dudley and Ms. Barbara Muik (secretariat).

4. During the review, the expert review team (ERT) reviewed each section of the NC6. The ERT also reviewed the supplementary information provided by Slovenia as a part of the NC6 in accordance with Article 7, paragraph 2, of the Kyoto Protocol. In addition, the ERT reviewed the information on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol, which was provided by Slovenia in its 2013 annual submission and previous submissions and elaborated further in its 2014 annual submission under Article 7, paragraph 1, of the Kyoto Protocol.

5. In accordance with decisions 23/CP.19 and 22/CMP.1, a draft version of this report was communicated to the Government of Slovenia, which provided comments that were considered and incorporated, as appropriate, into this final version of the report.

[1] "Base year" refers to the base year under the Kyoto Protocol, which is 1986 for carbon dioxide, methane and nitrous oxide, and 1995 for perfluorocarbons, hydrofluorocarbons and sulphur hexafluoride. The base year emissions include emissions from sectors/source categories listed in Annex A to the Kyoto Protocol.

[2] The target under the Kyoto Protocol for the second commitment period is taken by the EU, its 28 member States and Iceland. A political statement on the fulfilment the Kyoto Protocol second commitment period target by the 28 EU member States and Iceland is included in paragraph 45 of document FCCC/KP/CMP/2012/13.

B. Summary

6. The ERT conducted a technical review of the information reported in the NC6 of Slovenia in accordance with the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications" (hereinafter referred to as the UNFCCC reporting guidelines on NCs). As required by decision 15/CMP.1, supplementary information required under Article 7, paragraph 2, of the Kyoto Protocol[3] is provided in the NC6 (see para. 116 below). The supplementary information on the minimization of adverse impacts referred to in paragraph 4 above is mostly complete and transparent.

7. Slovenia considered most of the recommendations provided in the report on the in-depth review of the NC5 of Slovenia.[4] The ERT commended Slovenia for its improved reporting. During the review, Slovenia provided further relevant information on national circumstances, policies and measures (PaMs), projections, and vulnerability and adaptation.

1. Completeness and transparency of reporting

8. Gaps and issues related to the reported information identified by the ERT are presented in table 1 below.

2. Timeliness

9. The NC6 was submitted on 17 April 2014, after the deadline of 1 January 2014 mandated by decision 9/CP.16. Slovenia informed the secretariat about its difficulties with the timeliness of its NC6 on 8 January 2014 in accordance with paragraph 79 of the annex to decision 23/CP.19 and paragraph 139 of the annex to decision 22/CMP.1. As the NC6 was not submitted within six weeks after the due date (15 February 2014), the delay was brought to the attention of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) and the Compliance Committee and made public. The ERT noted with great concern the delay in the submission of the NC6.

10. Slovenia submitted a revised NC6 during the review on 17 May 2014. This revised submission has been used as the basis of the review.

3. Adherence to the reporting guidelines

11. The information reported by Slovenia in its NC6 is mostly in adherence to the UNFCCC reporting guidelines on NCs as per decision 4/CP.5 (see table 1).

[3] Decision 15/CMP.1, annex, chapter II.
[4] FCCC/IDR.5/SVN.

Table 1

Assessment of completeness and transparency issues of reported information in the sixth national communication of Slovenia[a]

Sections of national communication	*Completeness*	*Transparency*	*Reference to paragraphs*	*Supplementary information under the Kyoto Protocol*	*Completeness*	*Transparency*	*Reference to paragraphs*
Executive summary	Complete	Transparent		National systems	Complete	Transparent	
National circumstances	Complete	Transparent		National registries	Complete	Transparent	
Greenhouse gas inventory	Complete	Transparent		Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17	Complete	Transparent	
Policies and measures (PaMs)	Complete	Transparent		PaMs in accordance with Article 2	Complete	Transparent	
Projections and total effect of PaMs	Complete	Mostly Transparent	88	Domestic and regional programmes and/or arrangements and procedures	Complete	Mostly transparent	24
Vulnerability assessment, climate change impacts and adaptation measures	Mostly complete	Transparent	103	Information under Article 10[b]	NA	NA	
Financial resources and transfer of technology[c]	NA	NA		Financial resources[c]	NA	NA	
Research and systematic observation	Mostly complete	Transparent	109	Minimization of adverse impacts in accordance with Article 3, paragraph 14	Mostly complete	Transparent	118
Education, training and public awareness	Complete	Transparent					

Abbreviation: NA = not applicable.

[a] A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in the chapter on conclusions and recommendations.

[b] For the purposes of reporting information in this table, this assessment refers to information provided by the Party on the provisions contained in Article 4, paragraphs 3, 5 and 7, of the Convention reported under Article 10 of the Kyoto Protocol, which is relevant for developed country Parties and other developed Parties included in Annex II to the Convention only. Assessment of the information provided by the Party on the other provisions of Article 10 of the Kyoto Protocol is provided under the relevant substantive headings under the Convention, for example research and systematic observation.

[c] Reporting on financial resources under the Kyoto Protocol is relevant for developed country Parties and other developed Parties that are included in Annex II to the Convention (Annex II Parties). As Slovenia is not an Annex II Party, it does not have an obligation to provide information on financial resources under Article 11 of the Kyoto Protocol, including on "new and additional" resources.

II. Technical review of the reported information in the national communication and supplementary information under the Kyoto Protocol

A. Information on greenhouse gas emissions and national circumstances relevant to greenhouse gas emissions and removals, including other elements related to the Kyoto Protocol

1. Information on relevant national circumstances

12. In its NC6, Slovenia has provided a concise description of the national circumstances and elaborated on the framework legislation and key policy documents on climate change. Further information on the review of the institutional and legislative arrangements for the coordination and implementation of PaMs is provided in chapter II.B below. Table 2 illustrates the national circumstances of Slovenia by providing some indicators relevant to GHG emissions and removals.

13. The NC6 covered all of the elements required under the UNFCCC reporting guidelines on NCs. The NC6 described the relationship between GHG emissions and national circumstances by providing information on the transformation of political and economic systems in the late 1990s that resulted in decreases in gross domestic product (GDP) and the employment rate, as well as higher inflation. The Slovenian economy recovered thereafter and up to the 2008 global economic crisis, but the crisis resulted in reduced exports and investments and thereby slowed economic growth. Between 2010 and 2012, the economy remained stagnant as a result of weak domestic demand. The ERT commends Slovenia for providing this context as it relates to national circumstances.

14. The ERT noted that during the period 1990–2011, Slovenia's population and GDP increased by 2.5 and 57.6 per cent, respectively, while GHG emissions and GDP per capita decreased by 3.3 and 53.8 per cent, respectively. Table 2 illustrates the national circumstances of Slovenia by providing some indicators relevant to GHG emissions and removals.

Table 2
Indicators relevant to greenhouse gas emissions and removals for Slovenia

	1986	*1990*	*2000*	*2005*	*2010*	*2011*	*Change 1990–2011 (%)*	*Change 2010–2011 (%)*
Population (million)	NA	2.00	1.99	2.00	2.05	2.05	2.5	0.0
GDP (2005 USD billion using PPP)	NA	32.73	39.31	46.96	51.29	51.59	57.6	0.6
TPES (Mtoe)	NA	5.71	6.41	7.29	7.23	7.25	27.0	0.3
GHG emissions without LULUCF (Mt CO_2 eq)	20.20	18.44	18.92	20.31	19.48	19.51	5.8	0.2
GHG emissions with LULUCF (Mt CO_2 eq)	11.01	9.39	9.02	10.54	9.83	9.89	5.3	0.6
GDP per capita (2005 USD thousand using PPP)	NA	16.37	19.75	23.48	25.02	25.17	53.8	0.6
TPES per capita (toe)	NA	2.86	3.22	3.65	3.53	3.54	23.8	0.3

	1986	1990	2000	2005	2010	2011	Change 1990–2011 (%)	Change 2010–2011 (%)
GHG emissions per capita (t CO_2 eq)	NA	9.22	9.51	10.15	9.50	9.52	3.3	0.2
GHG emissions per GDP unit (kg CO_2 eq per 2005 USD using PPP)	NA	0.56	0.48	0.43	0.38	0.38	−32.1	0.0

Sources: (1) GHG emission data: Slovenia's 2013 GHG inventory submission; (2) Population, GDP and TPES data: International Energy Agency.

Note: The ratios per capita and per GDP unit are calculated relative to GHG emissions without LULUCF; the ratios are calculated using the exact (not rounded) values and may therefore differ from a ratio calculated with the rounded numbers provided in the table.

Abbreviations: GDP = gross domestic product, GHG = greenhouse gas, LULUCF = land use, land-use change and forestry, NA = not applicable, PPP = purchasing power parity, TPES = total primary energy supply.

2. Information on the greenhouse gas inventory, emissions and trends

15. Slovenia has provided a summary of information on GHG emission trends for the period 1986–2011. This information is consistent with the 2013 national GHG inventory submission. Summary tables, including trend tables for emissions in carbon dioxide equivalent (CO_2 eq) (given in the common reporting format tables), are provided in an annex to the NC6. During the review, the ERT took note of the recently submitted 2014 annual submission in which total GHG emissions in 2012 amounted to 18,910.98 kt CO_2 eq excluding land use, land-use change and forestry (LULUCF) and 14,555.22 kt CO_2 eq including LULUCF.

16. Total GHG emissions[5] excluding emissions and removals from LULUCF decreased by 3.4 per cent between 1986 and 2011, and by 5.8 per cent compared to 1990, whereas total GHG emissions including net emissions or removals from LULUCF decreased by 10.2 per cent since the base year, but increased by 5.4 per cent compared to 1990. CO_2 emissions (excluding LULUCF) followed the trend in the consumption of energy as they accounted for 95.3 per cent of the total emissions (excluding LULUCF) in 2011 and thereby defined the overall emission trend. CO_2 emissions decreased by 1.1 per cent between 1986 and 2011. Methane (CH_4) emissions accounted for 10.1 per cent of total emissions in 2011 and decreased by 9.5 per cent since 1986. Nitrous oxide (N_2O) emissions accounted for 5.7 per cent of total GHG emissions in 2011 and decreased by 20.5 per cent since 1986. Fluorinated gases (F-gases) accounted for 1.3 per cent of total emissions in 2011. The key driver for the emission trend is the economic development that in turn relates to the political and economic transformation associated with Slovenia's independence, which was intensified by the loss of the former Yugoslav markets. Economic conditions improved, but the 2008 global economic crisis led to a stagnation in the Slovenian economy. Further analysis of the drivers of GHG emission trends in each sector is provided in chapter II.B below. Table 3 provides an overview of GHG emissions by sector from the base year to 2011.

[5] In this report, the term "total GHG emissions" refers to the aggregated national GHG emissions expressed in terms of CO_2 eq excluding LULUCF, unless otherwise specified.

Table 3
Greenhouse gas emissions by sector in Slovenia, 1986–2011

	GHG emissions (kt CO_2 eq)					*Change (%)*		*Share[a] by sector (%)*	
Sector	*1986*	*1990*	*2000*	*2010*	*2011*	*1986–2011*	*2010–2011*	*1986*	*2011*
1. Energy	16 103.23	14 415.83	15 058.38	15 966.30	15 982.70	–0.7	0.1	79.7	81.9
A1. Energy industries	6 729.09	6 265.48	5 497.87	6 213.70	6 258.64	–7.0	0.7	33.3	32.1
A2. Manufacturing industries and construction	4 404.31	3 118.82	2 268.67	1 899.63	1 704.20	–61.3	–10.3	21.8	8.7
A3. Transport	2 025.42	2 729.81	3 861.67	5 265.12	5 698.69	181.4	8.2	10.0	29.2
A4–A5. Other	2 408.63	1 842.58	3 055.85	2 228.76	1 957.08	–18.7	–12.2	11.9	10.0
B. Fugitive emissions	535.78	459.14	374.33	359.08	364.09	–32.0	1.4	2.7	1.9
2. Industrial processes	1 316.98	1 317.65	1 062.82	980.04	1 014.36	–23.0	3.5	6.5	5.2
3. Solvent and other product use	81.90	43.40	42.73	30.38	49.29	–39.8	62.2	0.4	0.3
4. Agriculture	2 210.95	2 134.13	2 133.48	1 954.92	1 900.73	–14.0	–2.8	10.9	9.7
5. LULUCF	–9 193.32	–9 055.98	–9 901.23	–9 651.70	–9 618.74	4.6	–0.3	–45.5	–49.3
6. Waste	490.79	532.00	622.74	550.24	562.31	14.6	2.2	2.4	2.9
GHG total with LULUCF	**11 010.54**	**9 387.02**	**9 018.93**	**9 830.18**	**9 890.65**	**–10.2**	**0.6**	**NA**	**NA**
GHG total without LULUCF	**20 203.86**	**18 443.00**	**18 920.15**	**19 481.88**	**19 509.39**	**–3.4**	**0.1**	**100.0**	**100.0**

Note: The changes in emissions and the shares by sector are calculated using the exact (not rounded) values and may therefore differ from values calculated with the rounded numbers provided in the table.

Abbreviations: NA= not applicable, GHG = greenhouse gas, LULUCF = land use, land-use change and forestry.

[a] The shares of sectors are calculated relative to GHG emissions without LULUCF; for the LULUCF sector, the negative values indicate the share of GHG emissions that was offset by GHG removals through LULUCF.

3. National system

1. Slovenia provided in its NC6 a description of how its national system is performing the general and specific functions defined in the guidelines for national systems under Article 5, paragraph 1 (decision 19/CMP.1), of the Kyoto Protocol. The description includes all the elements as required in decision 15/CMP.1. The NC6 also contains a reference to the description of a national system provided in the report mandated by decision 13/CMP.1, submitted in 2006.[b] The ERT took note of the issues raised in report of the individual review of GHG inventory of Slovenia submitted in 2013, including those related to quality assurance and quality control.

[b] Slovenia's initial report under the Kyoto Protocol. The report to facilitate the calculation of the assigned amount pursuant to Article 3, paragraphs 7 and 8, of the Kyoto Protocol, available at <http://unfccc.int/national_reports/initial_reports_under_the_kyoto_protocol/items/3765.php>.

4. National registry

2. In its NC6, Slovenia has provided information on the national registry in accordance with the annex to decision 13/CMP.1 and the annex to decision 5/CMP.1. The ERT took note of the review of the changes to the national registry as reflected in the report of the individual review of the GHG inventory of Slovenia submitted in 2013.

3. Slovenia described the changes as being specifically due to the centralization of the European Union Emissions Trading System (EU ETS) operations into a single European Union registry operated by the European Commission called the Consolidated System of European Union registries (CSEUR). The CSEUR is a consolidated platform which implements the national registries in a consolidated manner and was developed together with the new EU registry.

5. Domestic and regional programmes and/or legislative arrangements and procedures related to the Kyoto Protocol

4. Slovenia has reported in its NC6 comprehensive and well-organized information on domestic and regional programmes and legislative arrangements and procedures related to the Kyoto Protocol.

5. The overall responsibility for climate change policymaking lies within the Ministry of Agriculture and the Environment, and a number of national institutions are involved in the implementation of this policy, including the Slovenian Environment Agency. The Ministry is responsible for the coordination of the activities of the different ministries and other stakeholders.

6. The implementation of the Kyoto Protocol is underpinned by the Slovenian climate policy, which is based on the EU climate change policy. The principles of its national policy are contained in the Operational Programme for Reducing GHG Emissions until 2020 With a View to 2030 (OP GHG-2020) that is currently under development. The OP GHG-2020 is to be based largely on instruments established by the Operational Programme for Reducing Greenhouse Gas Emissions until 2012 (OP GHG-01). Moreover, it is premised on numerous adopted sectoral and development programmes, including the Renewable Energy Sources Action Plan for the Period 2010–2020 (RES AP), the Energy Efficiency Action Plan for the Period 2011–2016 (EEAP 2), the Operational Programme for Municipal Waste Management from 2013, the Operational Programme for Environmental and Transport Infrastructure Development for 2007–2013 and the Rural Development Programme for the period 2007–2020. The EEAP 2 is currently under review and is intended to include the Long-Term Strategy for Promoting Investments in the Renovation of Buildings. Furthermore, the Operational Programme for Environmental and Transport Infrastructure Development for 2007–2013 is to be superseded by a new Operational Programme for the Implementation of the EU Cohesion Policy in the period 2014–2020, which is currently under development. A new programme for the Rural Development Programme is currently under development for the period 2014–2020.

7. Under the EU climate and energy package, the target of a 20 per cent reduction by 2020 compared with the base year level will be met by the EU and its member States through a 21 per cent reduction in GHG emissions from 2005 from installations under the EU ETS and a 10 per cent reduction in GHG emissions from 2005 in the sectors not covered under the EU ETS (non-ETS sectors) (primarily the transport, some industrial processes, agriculture and waste sectors). The national objective of Slovenia by 2020 is defined in sectors outside the EU ETS in line with EU decision 406/2009/EC. The national objectives of Slovenia therefore refer only to reductions in GHG emissions from sectors not included in the EU ETS. Slovenia has a national objective to limit the growth of its GHG emissions outside the EU ETS between 2005 and 2020 to 4 per cent, or to an amount of

12,117 kt CO_2 eq) in 2020, which is consistent with the EU effort-sharing decision (ESD) concerning the non-ETS target. Slovenia has defined its legally binding annual objectives, as the GHG emissions in the period 2013–2020 should not exceed the target annual emissions determined by a linear trajectory to the target in 2020. Slovenia has also set a target of achieving a 25 per cent share of renewable energy sources (RES) of gross final energy use, a 10 per cent share of RES in transport and a 20 per cent improvement in energy efficiency by 2020, in line with the 2008 EU Climate and Energy Package.

8. The ERT noted that the NC6 did not discuss how Slovenia coordinates compliance with the requirements of the Convention and its Kyoto Protocol under the OP GHG-01 and the OP GHG-2020, which has yet to be implemented. Furthermore, it is not clear from the NC6 how Slovenia is monitoring progress towards its emission reduction target under the Convention, especially in sectors in which Slovenia has not or has yet to adopt sectoral policies and programmes. During the review, Slovenia provided additional information, elaborating on the OP GHG-2020, which coordinates compliance with the requirements under the Convention and assigns the implementation of PaMs to relevant ministries and agencies, and on the development of the OP GHG-2020, which is in its final stages. Furthermore, Slovenia explained that the OP GHG-2020 will include a report on the assessment of the implementation of the OP GHG-01, as well as a system for monitoring the implementation of the OP GHG-2020 and its PaMs, including their effects. Additionally, Slovenia clarified that the monitoring of implemented measures is also embedded in the sectoral programmes, with outcomes included in reports prepared by ministries or agencies tasked with implementing the PaMs. The ERT recommends that Slovenia include this additional information in its next national communication (NC) submission with a view to improving transparency and clarity with regard to how it coordinates compliance with requirements under the Convention and the Kyoto Protocol.

9. Public access to information in Slovenia is well organized and readily available.

10. Slovenia also provided a description of national legislative arrangements and administrative procedures that seek to ensure that the implementation of activities under Article 3, paragraph 3, and elected activities under Article 3, paragraph 4, of the Kyoto Protocol also contribute to the conservation of biodiversity and the sustainable use of natural resources. NC6 describes in detail the National Forest Programme, which presents the implementation of the Environmental Action Plan at the national level. The key roles in the implementation of the National Forest Programme belong to the ministry in charge of forestry and the Slovenian Forest Service.

B. Policies and measures, including those in accordance with Article 2 of the Kyoto Protocol

11. Slovenia has provided in its NC6 comprehensive and well-organized information on its package of PaMs implemented, adopted and planned in order to fulfil its commitments under the Convention and its Kyoto Protocol.

1. Policies and measures related to implementation of commitments under the Convention

12. In its NC6, Slovenia reported on its PaMs adopted, implemented and planned in achieving its commitments under the Convention and its Kyoto Protocol. Slovenia provided information on PaMs by sector and by gas and a description of the principal PaMs that were identified and prioritized by Slovenia, as they contribute the most to mitigating GHG emissions. Slovenia has also provided information on how it believes its PaMs are modifying longer-term trends in anthropogenic GHG emissions and removals, consistent

with the objective of the Convention. The NC6 contains a similar set of PaMs to those in the NC5. Slovenia has identified PaMs in the energy supply sector and those directly related to the EU ETS as key to meeting its emission reduction target under the Convention and its Kyoto Protocol.

13. The NC6 does not include information on PaMs which lead to greater levels of emissions that would otherwise occur, nor does it indicate which PaMs are innovative or effectively replicable by other Parties. The NC6 does not include a description of the monitoring of the progress of PaMs to mitigate GHG emissions or information about institutional arrangements for monitoring. A description of the methods for the quantitative estimation of the impacts of PaMs and information about benefits not related to GHG mitigation of PaMs were also not included in the NC6. Information on how the policy or measure interacts with other PaMs and how policies complement each other in order to enhance overall GHG mitigation are missing in the NC6.

14. The NC6 also does not provide information about the costs of the implementation of PaMs, but it does provide detailed information and a financial breakdown of funding that is either committed, available or spent for individual PaMs, as well as a description of the sources of funding. However, the NC6 did indicate that the proposed OP GHG-2020 is to be based on established instruments from the OP GHG-01 and will provide a platform to prioritize measures with a view to implementing those that can achieve several objectives, thereby reducing the implementation cost of these measures.

15. The ERT encourages Slovenia to improve the transparency of its reporting by indicating the implementation period of its PaMs and ensuring consistency in the representation of this information between text and tables in the NC6 submission, identifying the PaMs that are innovative, and reporting an estimate of the cost to implement individual PaMs. The ERT also encourages Slovenia to estimate and report the impacts of individual PaMs and to provide a description of the ways in which progress with all PaMs to mitigate GHG emissions is monitored and evaluated over time. The ERT also encourages Slovenia to report on the institutional arrangements for monitoring GHG mitigation policy. Furthermore, the ERT encourages Slovenia to provide in its next NC information on how a policy or measure interacts with or complements other PaMs at the national level, and information on non-GHG-mitigation benefits of PaMs (e.g. reduced emissions of other pollutants or health benefits).

16. Slovenia has elaborated on all PaMs no longer in place and explained the rationale for the change, as well as eventual plans for replacement measures.

17. Slovenia addressed all recommendations and encouragements made in the previous review report in relation to PaMs. For example, in the NC6 Slovenia has provided in the NC6 information on the steps it has taken to promote and implement measures on the reduction of emissions from aviation and shipping transport; elaborated on the methods used to estimate the mitigation effects of individual PaMs; presented the estimated total effect of PaMs by sector.

2. Policy framework and cross-sectoral measures

18. The climate policy of Slovenia is premised on the EU climate change policy. The OP GHG-2020 is intended to facilitate Slovenia's transition to a resource-efficient, green and competitive low-carbon economy. It is to be based on adopted sectoral and development programmes that set out a pathway to mitigate GHG emissions. All policy development work by 2020 will derive directly from the OP GHG-2020.

19. All PaMs in Slovenia are operationalized through national legislation and EU directives that are transposed into national legislation. This provides a basis for the planning and allocation of finances to sectoral programmes designed to achieve emission

reduction targets under the Convention and its Kyoto Protocol. The NC6 identifies supplements to energy prices and EU funds (e.g. Cohesion Fund, European Regional Development Fund and the EU Agricultural Fund for Rural Development) as key sources of funding for PaMs.

20. Cross-cutting PaMs include the EU ETS, an environmental tax on CO_2 emissions, taxes and charges applied in the energy sector and awareness-raising and information campaigns.

21. The NC6 includes information on PaMs at both the national and the local (municipal) level. Local-level PaMs are mentioned, but are rather general in description and detail and the mitigation effects are not monitored or quantified. During the review, Slovenia explained that most sectoral programmes and PaMs are implemented and monitored at the state level, and, as such, the effects of PaMs are already accounted for in the projections of GHG emission data. That is, all subsidies for GHG reduction in municipalities are tendered by governmental programmes. Moreover, local energy agencies operate as project facilitators that support municipalities in project preparation. For example, financial support for enabling the implementation of the municipal-level air quality programmes focused on heating modes is run by Eco Fund (a national level fund owned by Slovenia). Slovenia also stressed that the new OP GHG-2020 will provide an enhanced system for monitoring the effects of PaMs, including at the local level.

22. The procedures for the use of the EU funds are guided by the relevant programmes (Rural Development Programme for the period 2014–2020 and the Operational Programme for the Implementation of the EU Cohesion Policy in the period 2014–2020), which were adopted by the Slovenian Government and submitted to the EU. Measures needed to achieve GHG targets in 2020 in the building sector are already included in the EEAP 2 and in the RES AP. Measures in the area of biomass use were adopted within the framework of the RES AP.

23. The key policy instruments for Slovenia to meet the Kyoto Protocol target are the implemented and planned measures in the energy supply sector, the EU ETS and the transport sector. Slovenia estimates that it will be able to meet the requirements under the Kyoto Protocol via domestic measures alone and without the use of the Kyoto Protocol mechanisms. By far the most important measures in terms of expected impacts are the measures focusing on the increase in the environmental efficiency of electricity and heat generation in the large combustion plants and the greater use of RES, followed by the GHG emissions trading measures (e.g. EU ETS) and the policy measures aimed at reducing emissions in the transport sector.

24. The introduction of energy management systems in public buildings, including buildings owned by local communities, will soon be obligatory in Slovenia. Energy accounting, as a part of energy management, will be an important tool to monitor the effects of measures in this sector. A central register will be established and results will be monitored countrywide.

25. The ERT encourages Slovenia to consider providing more detailed information on the PaMs at the subnational level and to effectively include the local-level GHG emission reduction actions in the national monitoring and reporting system.

Table 4
Summary of information on policies and measures reported by Slovenia

Sectors affected	*List of key policies and measures*	*Estimate of mitigation impact (kt CO_2 eq)*
Policy framework and cross-sectoral measures	EU ETS	1 139
	Tax on CO_2 emissions	NA
	Energy taxes	NA
	Education, training, awareness, information and promotion	NA
Energy		
Energy supply	Modernization of thermal power plants	2 210
	Promotion of cogeneration of electricity and heat with high efficiency	223
Renewable energy	Promotion of electricity generation from RES	890
	Promotion of heat generation from RES	304
Energy efficiency	Promotion of efficient energy use in industry	164
Residential and commercial sectors	Promotion of energy efficiency in the public sector	72
	Promotion of energy efficiency of buildings in the household and service sectors	185
Transport	Reduction of emissions from motor vehicles	197
	Promotion of the use of biofuels	507
	Promotion of the use of public transport	157
	Sustainable goods transport	54
	GHG emissions from transit	1 252
Industrial sectors	Reduction of F-gas emissions in stationary equipment	113
	Reduction of F-gas emissions from mobile air conditioning	122
	Management of waste electronic and electrical equipment	0.02
	Closure of plants not compatible with the IPPC directive	159
Agriculture	Efficient animal production	61
	Anaerobic digesters for biogas production from animal manures	4
	Increased the proportion of grazed animals	43
	Rational use of nitrogen fertilizers	52
Forestry	Sustainable forest management	–12 105
Waste management	Reduction of landfilled biodegradable waste	228
	Collection of landfilled gas for energy generation	125

Abbreviations: EU ETS = European Union Emissions Trading System, F-gas = fluorinated gas, GHG = greenhouse gas, IPPC directive = directive on integrated pollution prevention and control, NA = not available, RES = renewable energy sources.

3. Policies and measures in the energy sector

26. Between 1986 and 2011, GHG emissions from the energy sector in Slovenia decreased by 0.7 per cent (120.53 kt CO_2 eq), mainly driven by the decrease in emissions from the manufacturing industries and construction sector. The trend in GHG emissions from fuel combustion showed notable increases in transport sector (181.4 per cent or 3,673.27 kt CO_2 eq) over the 1986–2011 period, while in all the other sectors the GHG emissions have decreased over the same period.

27. Slovenia has adopted and is implementing a range of PaMs in the energy sector. More importantly it seems that Slovenia was very successful in funding the measures with substantial financial resources. The ERT finds the way in which Slovenia has managed to effectively mobilize a range of financial sources, including the EU funds and local polluter-pays-based taxes and excises (channelled through the national Eco Fund), to be quite innovative and potentially useful as a good practice example for other Parties.

28. The EU ETS remains the most important measure and, along with the environmental taxation (on CO_2 and F-gas emissions), has contributed significantly to driving change in overall GHG emissions. In total, 94 operators of plants in Slovenia were included in the EU ETS for the period 2008–2012. In 2010, the plants included in the system represented 42 per cent of total GHG emissions. Emissions trading under the EU ETS has extended beyond 2008–2012. Slovenia adopted a legally binding objective of reducing GHG emissions from these installations by 21 per cent by 2020 compared to the 2005 level. The objective of reducing emissions by 2030 is set at 43 per cent.

29. The impact on emissions of installations in Slovenia included in the EU ETS, for the period 2013–2030, is assessed as the difference between the projection of actual emissions and the average annual quantity of emission permits. The average annual quantity of emission permits for the period 2008–2012 was assessed to decrease linearly by 1.74 per cent annually since 2010. In 2015, the difference should amount to 283 kt CO_2, and in 2020 to 1,139 kt CO_2.

30. ***Energy supply.*** Slovenia has reported that the greatest expected impact of measures are from those relating to energy supply, in particular the increased energy efficiency of electricity and heat generation in large combustion plants and the expanded use of RES in electricity generation. The planned combined total effect of these measures is 2,494 kt CO_2 eq by 2015 and 3,333 kt CO_2 eq by 2020.

31. In 2011 emissions from the energy supply sector is the main source of GHG emissions in Slovenia. However, Slovenia expects that the implementation of a comprehensive set of energy PaMs (especially those related to facilitating the technological modernization of the existing thermal power plants) will result in emissions from the energy supply sector decreasing significantly by 2030. The positive change is already notable in the 2011 GHG inventory, with the decommissioning of the coal units of the thermal power plants TEŠ 1–4 to be replaced by TEŠ 6, TET by 2015, TEŠ 5 by 2020 and TE-TOL by 2020. The, the electricity generation in the coal unit TEŠ 5 is expected to gradually decrease between 2010 and 2025. Furthermore, the generation of electricity from natural gas (TET and TE-TOL replacement units), nuclear plants (the two JEK unit) and cogeneration plants on natural gas that produce electricity and heat at high efficiency is expected to increase over the same period. The feed-in tariff system is used to promote cogeneration plants in all sectors.

32. The EU ETS is considered by Slovenia as the main PaMs to achieve GHG targets in energy supply and all large combustion plants in Slovenia are included in the EU ETS. Through their inclusion in the EU ETS they are exposed to market forces that influence their competitiveness with regard to the price of emission permits. This consequently encourages modernization, particularly after 2012 when the operators of power generation plants are required to purchase all necessary permits at auctions. The EU ETS measure is complemented by a scheme that supports investment in combined heat and power systems, as well as the adopted EU requirement relating to environmental protection permits that have more stringent requirements starting in 2016.

33. ***Renewable energy sources***. The production of electricity from renewable sources in Slovenia is expected to increase over the next years, especially from hydropower. The two main PaMs aimed at achieving this goal are the support schemes for electricity generated from renewable energy sources and the promotion of heat generation from RES.

34. The first PaM involves the generation of electricity in plants using RES that comply with the definition of RES referred to in the Slovenian Energy Act. The measure was recently extended to include RES power plants with electrical power of up to 125 MW (electrical), with support provided for a period of 15 years for new plants or for a shorter period for existing plants. The production of electricity from RES is also encouraged through the provision of loans for investments with favourable interest rates by the Environmental Protection Fund.

35. Hydropower infrastructure continues to expand in Slovenia. On the lower branch of the Sava River, a cascade of five hydroelectric power plants is being built; three have already been completed and the remaining two will be completed by 2018. Their total annual production is estimated to be 721 GWh.

36. Measures for promoting the use of RES for heat generation are planned within the framework of two priority policies of the Operational Programme for Environmental and Transport Infrastructure Development (2007–2013): (a) energy-saving retrofitting and the sustainable construction of buildings and (b) innovative systems for the local energy supply. In the period 2008–2012, within the framework of energy-saving retrofitting and the sustainable construction of buildings, Slovenia allocated EUR 15 million for RES (namely, individual heating systems using wood biomass) and allocated a further EUR 27 million for innovative systems for local energy supply.

37. The use of renewable sources in buildings will also be enhanced through the adopted Rules on the Energy Performance of Buildings, a measure which will extend in the period 2014–2020 with the objective of achieving a 25 per cent share of RES in gross final energy use.

38. ***Energy efficiency.*** PaMs promoting efficient energy use in industry are primarily focused on the efficient use of electricity. It is a priority stemming from the country's Energy Efficiency Action Plan (EEAP), which earmarked EUR 15 million in public funds in the period 2009–2013 for this purpose. The measure is designed to provide direct financial incentive, amounting to 30–50 per cent of the eligible costs of investments in energy-efficient technologies. Another part of the implementation of the EEAP is the provision of favourable loans by the Eco Fund for environmental investment in efficient energy measures in production and business facilities. Measures in industry are also supported by the energy supply companies under the efficient energy use programmes for end users.

39. The EEAP also foresees a range of instruments for the improvement of energy efficiency in the public sector, which include financial incentives for investments in energy-efficient retrofitting, as well as the construction/use of buildings. In the period 2010–2012, Slovenia has made available a total of EUR 147.8 million in grant funds. In addition, EUR

1 million was made available for passive and low-energy construction works in buildings owned by local communities. Finally, green public procurements were also introduced to further strengthen the work on improving energy efficiency in the public sector.

40. ***Residential and commercial sectors***. The promotion of energy efficiency of buildings in the household and service sectors is based on the Rules on Efficient Use of Energy in Buildings (52/2010), which prescribe a mandatory 25 per cent share of RES in the total use of final energy in buildings and encourage the use of RES in general electricity use and electricity generation. The Rules apply to new and renovated buildings and set ambitious requirements for the energy efficiency of buildings and the use of RES, resulting in requirements to improve buildings' heat insulation and the installation of energy-efficient equipment and systems.

41. Support for the implementation of investments in buildings for energy-efficient retrofitting, the sustainable construction and energy-efficient heating systems was backed by a total of EUR 59.9 million. In the period 2008–2012 these investments reached 56,475 households in Slovenia.

42. ***Transport sector***. Transport emissions amounted to 5,698.69 kt CO_2 eq, or 29.2 per cent of total GHG emissions in 2011. The key driver of transport emissions is 'tank tourism', as well as the 'through' transport (i.e. transit traffic) that arises from Slovenia's location at the crossing of major European transportation corridors and relatively lower fuel prices when compared to neighbouring countries. Solutions for both of these issues are expensive and not entirely under Slovenia's control.

43. In 2008, fuels sold to 'through' transport represented 22 per cent of the entire amount of fuel sold in Slovenia. The trend has temporarily slowed owing to the economic crisis in 2009 that resulted in a 13 per cent reduction in fuel sold; however, by 2011 it had increased by 8 per cent.

44. Slovenia has put in place a set of PaMs aimed at: (a) reducing emissions from motor vehicles, including through the promotion of the use of biofuels, public transport and sustainable goods transport; and (b) reducing GHG emissions from 'through' transport.

45. ***Industrial sector.*** PaMs in the industrial sector aimed at reducing emissions through improved energy efficiency, especially with regard to electricity, which is a priority identified in the EEAP.

46. Slovenia has also proceeded to close industry plants that are not compatible with the directive on integrated pollution prevention and control (directive 96/61/EC). The greatest impact of this measure is in aluminium production, which subsequently saw a significant decrease in GHG emissions between 1986 and 2011.

4. Policies and measures in other sectors

47. Between 1986 and 2011, GHG emissions from industrial processes decreased by 23.0 per cent, emissions from solvent and other product use by 39.8 per cent, and emissions from agriculture by 14.0 per cent, whereas emissions from waste increased by 14.6 per cent.

48. ***Industrial processes, solvents and product use***. The principal PaMs aimed at the reduction of emissions in the industrial sector are focused on the reduction of F-gases in stationary equipment and mobile air conditioning, as well as the reduction of F-gas emissions from improved waste management practices with regard to electronic and electrical equipment.

49. To that end, Slovenia transposes the relevant EU regulation on F-gases and the use of products and equipment containing ozone-depleting substances or F-gases in the national

law (decree). The reduction of emissions in the industrial sector in Slovenia is further supported through legislation that introduces an environmental tax for the use of F-gases and a requirement to maintain records on the placement of F-gases on the market.

50. ***Agriculture***. Between 1986 and 2011, GHG emissions from the agriculture sector decreased by 14.0 per cent. Expected increases in the number of livestock (bovine and porcine animals) and in the use of fertilizers between 2011 and 2030 are projected to increase emissions by 23 per cent and 12 per cent, respectively.

51. PaMs in the agriculture sector are based on the Resolution on the Slovenian Agriculture and Food Industry Strategic Guidelines up to 2020 adopted by the Slovenian National Assembly in 2011. This resolution places emphasis on food security and sustainable production. PaMs are thus oriented towards finding solutions that will reduce GHG emissions by decreasing the emission intensity per unit of produced food without reducing the physical quantity of agricultural and domestic animal production. The key PaMs include support for efficient animal production, the installation of anaerobic digesters for biogas production from animal manures, the increased proportion of grazed animals and the rational use of nitrogen fertilizers.

52. ***LULUCF***. The LULUCF sector was a net removal of 9,618.74 kt CO_2 eq in 2011, which represents a 4.6 per cent increase in the net removal of GHG emissions since 1986. This trend is largely driven by sustainable forest management policies as guided by the National Forest Programme adopted in 2007.

53. Current data indicate that forests in Slovenia remove eight times more CO_2 than Slovenia can use for the fulfilment of the Kyoto Protocol commitments in the appendix to decision 13/CMP.1 (1.32 Mt CO_2 eq).

54. ***Waste management.*** Emissions from the waste sector have increased by 2.2 per cent between 1986 and 2011. The ERT observed a noticeable decreasing trend in emissions since 2000, and this trend is projected to continue. In 2030, emissions are forecasted to amount to 444.75 kt CO_2 eq, representing a 21 per cent reduction in GHG emissions compared to the 2011 level. The key driver for this reduction is a projected decrease in organic waste deposited in landfills, reflecting the impact from PaMs. These PaMs aim at improved waste management measures such as the separate collection of waste and packaging material, and the sorting and separation of waste in collection centres. The measure outcome is to reduce the share of the collected unseparated municipal waste from 50 per cent (2011 level) to 36 per cent by 2020. This measure is to be complemented by an obligation of landfill operators to harness biogas generated at landfills.

5. Policies and measures related to implementation of commitments under the Kyoto Protocol

55. Slovenia reported on its package of PaMs adopted, implemented and elaborated in achieving its commitment under the Kyoto Protocol.

56. Slovenia reported that it is able to reduce its GHG emissions exclusively through domestic measures and thereby does not need to use Kyoto Protocol mechanisms to achieve its target (as envisaged in the OP GHG-01). Moreover, the recent economic crisis and the reduction in road transportation fuel sales have contributed significantly to this outcome.

57. As an EU member State, Slovenia actively participates in the formulation and implementation of common EU PaMs in this area. With numerous documents and decision-making processes at the EU level, the EU 2020 Strategy in particular, Slovenia has committed itself to pursuing the objective of sustainable growth.

58. The NC6 includes information on how Slovenia promotes and implements the International Civil Aviation Organization/International Maritime Organization decisions to

limit emissions from aviation and marine bunker fuels. As an EU member State, Slovenia has achieved a reduction in international emissions in aviation through the inclusion of aircraft operators in the EU ETS. The measure entered into force on 1 January 2012 for all flights. Within the framework of the scheme, aircraft operators received permits for 2012 in the amount of 97 per cent of average emissions for the period 2004–2006, and in the amount of 95 per cent each year for the period 2013–2020. Slovenia's efforts to reduce GHG emissions from international shipping transport are also aligned with the EU approaches. Therefore, it follows the EU strategy for the gradual inclusion of GHG emissions from shipping transport. As a first step, Slovenia proposed legislation, which is currently being considered, for the monitoring, reporting and verification of emissions from large vessels.

59. In its NC6, Slovenia reported information on how it strives to implement PaMs under Article 2 of the Kyoto Protocol in such a way as to minimize adverse effects, including the adverse effects of climate change and effects on international trade and social, environmental and economic impacts, on other Parties, especially developing country Parties. Further information on how Slovenia strives to implement its commitments under Article 3, paragraph 1, of the Kyoto Protocol in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties, as reported in the 2013 annual submission, is presented in chapter III.B below.

60. The NC6 underlines that Slovenia acts responsibly in accordance with the provisions of the Kyoto Protocol and implements climate change measures so that the negative impacts of climate change, as well as the results of the measures for reducing GHG emissions would be as low as possible for all countries, in particular for the most vulnerable developing countries.

C. Projections and the total effect of policies and measures, including information on supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol

61. In its NC6, Slovenia has reported emission projections under a 'with measures' and 'with additional measures' scenario up to 2030.

1. Projections overview, methodology and key assumptions

62. The GHG emission projections provided by Slovenia in the NC6 include a 'with measures' and a 'with additional measures' scenario until 2020 for emissions sources in the EU ETS, presented relative to actual inventory data for 2008, 2009, 2010 and 2011. For emissions sources not included in the EU ETS projections up to 2020, projections are presented relative to actual inventory data for 2005 and in the period 2007–2011. Slovenia's NC6 provides GHG emission projections for all sources which include a 'with measures' and a 'with additional measures' scenario for 2020 and 2030, presented relative to actual inventory data for 1986, 1990, 1995, 2000, 2005, 2010 and 2011. Projections are presented on a sectoral basis for the same sectoral categories used in the PaMs section and on a gas-by-gas basis for the following GHGs: CO_2, CH_4, N_2O, perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and sulphur hexafluoride (SF_6) (treating PFCs, HFCs and SF_6 collectively in each case). Projections are also provided in an aggregated format for each sector, as well as for a national total, using global warming potential (GWP) values from the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). During the review Slovenia informed the ERT that the values in the cells in the common tabular format (CTF) tables 6(a) and 6(c) for the 'Total with LULUCF' and 'Total without LULUCF' rows needed to be switched, and subsequently provided revised CTF tables to

the ERT. Emission projections related to fuel sold to ships and aircraft engaged in international transport were reported separately and not included in the totals.

63. The NC6 does not include the impact of measures for 2010 for the implemented and adopted measures. During the review, Slovenia explained that such impact was not estimated, as it was not possible for the 'with additional measures' scenario since the base year for those projections is 2011. The ERT encourages Slovenia to provide information on the impact from measures in future NCs.

64. The NC6 does not include information on projections for the 'without measures' scenario. The ERT encourages Slovenia to consider reporting such information in future NCs. The ERT noted that Slovenia did not provide information on projections for the following indirect GHGs in the NC6: carbon monoxide, nitrogen oxide, non-methane volatile organic compounds and sulphur dioxide. The ERT also encourages Slovenia to provide this information in future NC submissions.

65. Slovenia provided two scenarios in its NC6. The 'with measures' scenario includes all measures implemented or adopted as indicated in the PaMs section of the NC6. The projection for the 'with measures' scenario and for the 'with additional measures' scenario differ in the general energy use (households), transport, and agriculture sectors. For all other sources, the projections are equal. The differences in general energy use arise from the assumptions on varying frequency in the replacement of boilers on fuel oil in households. In the transport sector, the difference arises from an assumption regarding the ratio between the prices of motor fuel in Slovenia and the neighbouring countries. In the 'with measures' projection, it is envisaged that motor fuel prices will be lower in Slovenia than in the neighbouring countries, and for this reason the majority of vehicles will purchase fuel in Slovenia; in the 'with additional measures' projection, it is envisaged that Slovenia, through its tax policy, will keep the price of fuel above the price levels of the neighbouring countries, which will cause the majority of vehicles to purchase fuel in the neighbouring countries. In the agriculture sector, the difference in projections arises from the inclusion of relevant measures described in chapter 4.6.

66. During the review, Slovenia provided the ERT with a revised list of the measures which are included in the 'with measures' scenario. The ERT encourages Slovenia to provide all of this information in their next NC, including an explicit definition of the 'with measures' scenario and an indication of timing, for example 'measures implemented or adopted before [date]'.

67. Slovenia reported on the changes to the methodology; however, information reported regarding the changes relate to changes between NC4 and NC5 on the basis of estimating EU ETS projections, and on updates to models used to develop the emission projections. The change in methodology related to incorporating the envisaged quantity of EU allowances in the EU ETS projection reported in NC5, whereas only actual emissions were included in EU ETS projections reported in NC4.

68. The methodology used for preparing the projections is described well in the NC6. Projections for the energy sector were developed using models similar to those used for preparing the projections reported in the NC5, namely, a reference energy ecological model called the Reference Energy and Environmental System of Slovenia (REES-SLO2), complemented by a model to assess the market penetration of energy-saving technologies (PET-SLO). RES-SLO2 is developed in the Modular Energy System and Planning environment in the form of a linear network model for mapping processes and connections (a reference energy system). During the review, Slovenia provided additional information about the methodology. Sectoral energy demand is modelled with sectoral bottom-up models. The main activity data are: (a) households: residential floor area; (b) services: service floor area; (c) industry and construction: index of industrial production; and (d)

transport: transport demand (differentiated as either freight or passenger). Based on the shares of the various elements (multifamily houses, single-family houses, etc.) and the characteristics that can be influenced by measures (e.g. the building envelope), the demand for heat and electricity can be calculated that takes into account different technologies for heat production. For electricity production, the model for the optimization of electricity production in free market conditions is used, which also takes into account production from automobile producers that is calculated based on heat demand in of energy users (i.e. final users of the energy).

69. Owing to Slovenia's exposure to transit transportation flows, the assessment of transport emissions is very uncertain. Two models were used for transport emissions. The assessment of the changes in fuel consumption is based on an energy model for transport. The results of the European energy model PRIMES (Price Induced Model of the Energy System) were also used for the preparation of such assessment. Another model was used to estimate the vehicle fleet structure for passenger vehicles on the basis of assumptions regarding vehicle life cycle and the structure of newly purchased vehicles.

70. Projections of waste emissions are mainly based on a default IPCC methodology. A simplified methodology was used to estimate emissions from deposited waste prior to 1977, when the disposal of waste was disorganized/badly compressed and the landfill was only covered after it was closed. A more accurate IPCC methodology (the first-order decay model) is used to estimate emissions from waste deposited to landfills after 1977.

71. The sensitivity of the results of the projections using different input parameters is discussed in the NC6. Considering the fact that in Slovenia, the development of the transport sector is very uncertain and also represents the most important source of emissions from non-ETS sectors, a sensitivity analysis was performed for the transport sector. A sensitivity analysis of the projections was carried out with regard to: (a) the price of fuels in comparison with the neighbouring countries; and (b) the implementation of measures in this sector. Sensitivity to the price of fuels was estimated based on the assumption that 100 per cent of vehicles in transit transport decide to purchase fuel in Slovenia when the fuel price is lower there than in the neighbouring countries. The projection for the 'with additional measures' scenario envisages that Slovenia covers 42 per cent of the energy needs of transit transport vehicles. In order to estimate sensitivity to the implementation of measures, a projection was prepared that envisaged the continuation of the current intensity of the implementation of the sustainable transport policy measures. The results of the sensitivity analyses were presented well in tabular format in the NC6.

2. Results of projections

72. The Kyoto Protocol target for Slovenia for the first commitment period (2008–2012) is to keep emissions below 18,726.04 kt CO_2 eq on an average per annum, which represents an 8.0 per cent reduction in GHG emissions when compared with the base year level. According to the GHG emission data presented in the NC6, average annual emissions during 2008–2011 were estimated to be 19,956.05 kt CO_2 eq, indicating that Slovenia will need to implement additional measures to achieve its target for the first commitment period of the Kyoto Protocol. The ERT noted that NC6 included statements regarding not using the Kyoto mechanisms or units from LULUCF, but these statements related to the 2020 target. It was not clear from NC6 how Slovenia envisages achieving its 8 per cent reduction target, including whether it intends to use units from LULUCF and/or the Kyoto mechanisms. The ERT recommends that Slovenia include in its next NC submission information that clearly stipulates how it achieved its target under the first commitment period of the Kyoto Protocol (see paras. 18–20 of the report of the technical review of the first biennial report).

73. For the second commitment period of the Kyoto Protocol (2013–2020), Slovenia has committed to achieve, together with the other EU member States and Iceland, the joint target of a GHG emission reduction of 20 per cent below the base year (1990) level. Slovenia reported that, according to EU decision 406/2009/EC, its national target for 2020 for sectors outside the EU ETS is +4 per cent compared with 2005, or 12,177 kt CO_2 eq.

74. Based on the projection results provided in the NC6, the projected increase in GHG emissions under the 'with measures' and 'with additional measures' scenarios in 2020 in relation to 1990 are 10.3 and 1.1 per cent, respectively. Compared to 1990 level, under the 'with measures' scenario emissions are projected to increase by 3.5 per cent by 2030; under the 'with additional measures' scenario, emissions are projected to decrease by 5.7 per cent by 2030. The contribution of different gases to Slovenia's total emission projections are as follows: for the 'with measures' scenario, total GHG emissions in 2020 are 20,351.24 kt CO_2 eq, which includes CO_2, CH_4 and N_2O emission levels of 16,754.64, 2,116.30 and 1,303.02 kt CO_2 eq, respectively. The total GHG emissions for the 'with measures' scenario are expected to be 19,086.98 kt CO_2 eq in 2030, which includes CO_2, CH_4 and N_2O emission levels of 15,541.00, 2,029.26 and 1,333.44 kt CO_2 eq, respectively. This represents a decrease in CO_2, CH_4 and N_2O emissions of 14.1, 89.2 and 93.3 per cent, respectively, by 2020 compared with the 2011 levels. The drivers underlying the projections are: (a) a shift in energy supply from coal to the increased use of renewables, resulting in a decrease in emissions by 2030; (b) an increase in transport emissions; (c) a decrease in industrial emissions as a result of measures designed to improve the energy efficiency of industrial operations; (d) an increase in agricultural emissions as a result of a forecasted increase in livestock populations and a small increase in the use of fertilizers; and (e) a decrease in waste emissions due to measures designed to reduce organic material sent to landfill.

75. Slovenia's longer-term target for the sectors not included in the EU ETS is for limiting emissions increase to no more than 4 per cent by 2020 relative to 2005 levels. In the NC6, Slovenia reports non-ETS emissions under the 'with measures' scenario to be 12,151 kt CO_2 eq by 2020 (i.e. an increase of 0.3 per cent on the 2005 level), and under the 'with additional measures' scenario to be 10,450 kt CO_2 eq (i.e. a decrease of 13.8 per cent on 2005 level). The ERT noted that Slovenia attributes the significant difference between the projections to the high sensitivity of these projections to national circumstances, such as transit transport and the EU expansion to the southeast Balkans). Furthermore, Slovenia explains that transport emissions are the main driving force behind non-ETS emissions; the relative contribution of transport to non-ETS emissions was 50 per cent in 2011, and this share is projected to increase to 54 and 51 per cent under the 'with measures' and 'with additional measures' scenarios, respectively.

76. The projected emission levels under different scenarios and information on the Kyoto Protocol targets and quantified economy-wide emission reduction target are presented in table 5 and the figure.

Table 5
Summary of greenhouse gas emission projections for Slovenia

	Greenhouse gas emissions (kt CO_2 eq per year)	*Changes in relation to the base year[b] level (%)*	*Changes in relation to the 1990 level (%)*
Kyoto Protocol base year[b]	20 354.04	NA	10.4
Kyoto Protocol target for the first commitment period (2008–2012)	18 726.04	–8.0	1.5
Kyoto Protocol target for the second	Not available yet	NA	NA

	Greenhouse gas emissions (kt CO_2 eq per year)	*Changes in relation to the base year[a] level (%)*	*Changes in relation to the 1990 level (%)*
commitment period (2013–2020)[c]			
Quantified economy-wide emission reduction target under the Convention[d]	Not available yet	NA	NA
Inventory data 1990[e]	18 443.00	–9.4	
Inventory data 2011[e]	19 509.38	–4.1	5.8
Average annual emissions for 2008–2011[e]	19 956.05	–2.0	8.2
'Without measures' projections for 2020[f]	NE	NA	NA
'With measures' projections for 2020[f]	20 351.24	–0.01	10.3
'With additional measures' projections for 2020[f]	18 650.22	–8.4	1.1
'Without measures' projections for 2030[f]	NE	NA	NA
'With measures' projections for 2030[f]	19 086.97	–6.2	3.5
'With additional measures' projections for 2030[f]	17 388.07	–14.6	–5.7

Note: Quantified economy-wide emission reduction target under the Convention and the Kyoto Protocol target for the second commitment period (2013–2020) are joint targets for the European Union and its 28 member States and Iceland for a 20 per cent emission reduction by 2020 compared with the base year (1990) level. The target for sectors not covered by the European Union Emissions Trading System is 12.117 kt CO_2 eq in 2020 for Slovenia under the European Union effort-sharing decision.

[a] "Base year" in this column refers to the base year used for the target under the Kyoto Protocol, while for the target under the Convention it refers to the base year used for that target.

[b] The Kyoto Protocol base year level of emissions is provided in the initial review report contained in document FCCC/IRR/2007/SVN.

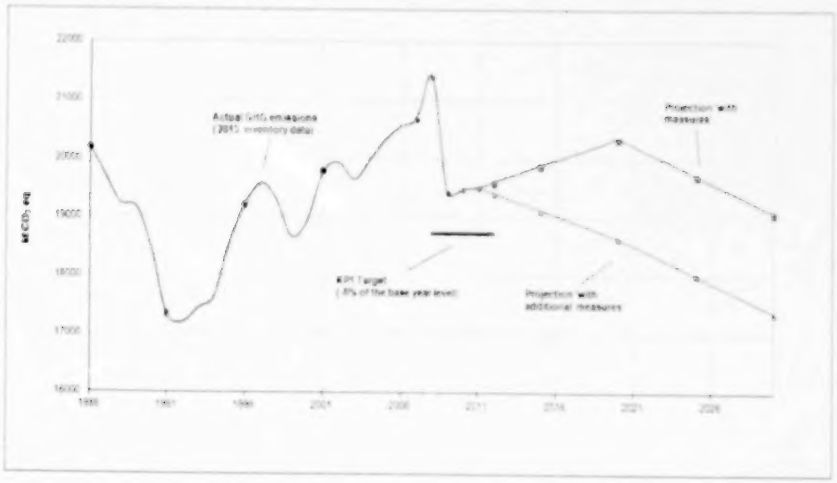
[c] The Kyoto Protocol target for the second commitment period (2013–2020) is a joint target for the European Union and its 28 member States and Iceland. The target is to reduce emissions by 20 per cent by 2020 compared with the base year (1990) level. The target for sectors not covered by the European Union Emissions Trading System is +4 per cent for Slovenia under the European Union effort-sharing decision.

[d] Quantified economy-wide emission reduction target under the Convention is a joint target for the European Union and its 28 member States. The target is to reduce emissions by 20 per cent by 2020 compared with the base year (1990) level.

[e] Slovenia's 2013 greenhouse gas inventory submission; the emissions are without land use, land-use change and forestry.

[f] Slovenia's sixth national communication and first biennial report.

Greenhouse gas emission projections


Actual GHG emissions (2011: inventory data)
Projection with measures
KP1 Target (...% of the base year level)
Projection with additional measures

Sources: (1) Data for the years 1990–2011: Slovenia's 2013 greenhouse gas inventory submission; the emissions are without land use, land-use change and forestry; (2) Data for the years 2011–2030: Slovenia's sixth national communication and/or first biennial report; the emissions are without land use, land-use change and forestry; updated projections provided by the Slovenia during the review.

Abbreviations: GHG = greenhouse gas; KP1 = first commitment period of the Kyoto Protocol.

3. Total effect of policies and measures

77. In the NC6, Slovenia presents the estimated and expected total effect of implemented and adopted PaMs and an estimate of the total effect of its PaMs, in accordance with the 'with measures' definition, compared with a situation without such PaMs. It also provides information about the total impact of additional measures compared with the 'with measures' scenario. Information is presented in terms of GHG emissions avoided or sequestered, by gas (on a CO_2 eq basis and for all F-gases collectively) and by sector, for 2015, 2020, 2025 and 2030. It also presents relevant information on factors and activities for each sector for the years 2010–2030.

78. During the review, Slovenia provided the ERT with additional information, including an elaboration of emission factors and activity data for each sector.

79. Slovenia reported that the total estimated effect of adopted and implemented PaMs will amount to 6,604 kt CO_2 eq in 2020 and 8,336 kt CO_2 eq in 2030. The largest factor is the impact of CO_2 emissions, followed by CH_4. According to the information reported in the NC6, PaMs implemented in the energy supply sector will deliver the largest emission reductions, followed by the effect of PaMs implemented in the transport sector and the impact of the EU ETS. The most effective PaMs and drivers behind GHG emission reductions are described in chapter II.B above. Table 6 below provides an overview of the total effect of PaMs as reported by Slovenia.

Table 6
Projected effects of planned, implemented and adopted policies and measures in 2020 and 2030

Sector	*Effect of implemented and adopted measures ($kt CO_2 eq$)*	*Relative value (% of 1990 emissions)*	*Effect of planned measures ($kt CO_2 eq$)*	*Relative value (% of 1990 emissions)*	*Effect of implemented and adopted measures ($kt CO_2 eq$)*	*Relative value (% of 1990 emissions)*	*Effect of planned measures ($kt CO_2 eq$)*	*Relative value (% of 1990 emissions)*
	2020				*2030*			
EU ETS	1 139	6.2	NA	NA	1 177	6.4	NA	NA
Energy supply (without CO_2 from transport)	3 333	18.1	NA	NA	4 070	22.1	NA	NA
Transport	914	5.0	1 252	6.8	1 236	6.7	1 375	7.5
Industry (with industrial processes) processes	569	3.1	NA	NA	820	4.4	NA	NA
Other sectors	261	1.4	290	1.6	529	2.9	101	0.5
Waste management	388	2.1	NA	NA	504	2.7	NA	NA
Agriculture	NA	NA	142	0.8	NA	NA	203	1.1
Total	**6 604**	**35.9**	**1 684**	**9.2**	**8 336**	**45.2**	**1 679**	**9.1**

Source: Slovenia's sixth national communication and first biennial report.

Note: The total effect of the measures was taken to be the sum of the effect of the measures, and are not related to a 'without measures' scenario as such a scenario has not been developed.

Abbreviation: EU ETS = European Union Emissions Trading System, NA = not available.

4. Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol

80. Slovenia in its NC6 provided information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action, although it did not elaborate on supplementarity as such. The ERT noted that, according to the NC6, Slovenia does not plan to use the market-based mechanisms to meet its Kyoto Protocol target.

D. Provision of financial resources and technology transfer to developing country Parties, including information under Articles 10 and 11 of the Kyoto Protocol

1. Financial resources, including "new and additional" resources and resources under Article 11 of the Kyoto Protocol

81. Slovenia is not a Party included in Annex II to the Convention and is therefore not obliged to adopt measures and fulfil obligations as defined in Article 4, paragraphs 3, 4 and 5, of the Convention. However, the ERT noted that Slovenia provided in its NC6 information on its provision of financial resources and capacity-building support to developing country Parties. The ERT welcomes the information reported by Slovenia.

82. In its NC6, Slovenia provided information on provision of support required under the Convention and the Kyoto Protocol. The ERT commends Slovenia on the information given on including "new and additional" resources and resources under Article 11 of the Kyoto Protocol.

83. In its NC6, Slovenia provided information on measures taken to give effect to its commitments under Article 4, paragraphs 3, 4 and 5, of the Convention as required by the UNFCCC reporting guidelines on NCs and under Article 11 of the Kyoto Protocol, as required by the "Guidelines for the preparation of information required under Article 7 of the Kyoto Protocol". Slovenia has indicated what "new and additional" financial resources it has provided pursuant to Article 4, paragraph 3, of the Convention and clarified how it has determined such resources as being "new and additional".

84. Slovenia has also provided information on the assistance it has provided to developing country Parties that are particularly vulnerable to the adverse effects of climate change to help them to meet the costs of adaptation to those adverse effects. Furthermore, Slovenia has provided information on other financial resources related to the implementation of the Convention provided through bilateral, regional and other multilateral channels. In particular, it provided financial resources related to the implementation of the Convention through bilateral, regional and other multilateral channels, including the Global Environment Facility, the United Nations Convention to Combat Desertification and the UNFCCC.

85. Slovenia did not provided information on its financial contribution to the Adaptation Fund, established in accordance with decision 10/CP.7. With regard to the most recent financial contributions (fast-start funding) to enhance the implementation of the Convention by developing countries, Slovenia has committed itself to provide EUR 8 million for 2010–2012. Table 7 summarizes information on financial resources and technology transfer.

Table 7
Summary of information on financial resources and technology transfer for 2011–2012
(Euros)

	Years of disbursement	
Allocation channel of public financial support	*2011*	*2012*
Contributions through multilateral channels, including:	1 133 000	1 092 000
Climate change funds (GEF)	1 037 000	960 000
Specialized United Nations bodies (UNDP)	96 000	132 000
Contributions through bilateral and regional channels	1 489 000	1 306 000
Total	**3 755 000**	**3 490 000**

Abbreviations: GEF = Global Environment Facility, NR = not reported, UNDP = United Nations Development Programme

2. Technology transfer, including information under Article 10 of the Kyoto Protocol

86. Slovenia has provided in its NC6 comprehensive and well-organized information on activities related to the transfer of technology and notable activities by the public sectors. Examples of projects financially supported by Slovenia include wastewater plants in the former Yugoslav Republic of Macedonia and in Montenegro and the construction of a wood briquette plant in Serbia.

E. Vulnerability assessment, climate change impacts and adaptation measures

87. In its NC6, Slovenia has provided the required information on action taken in different areas in the country with regard to adaptation to climate change for the period 2010–2013. However, the ERT noted that Slovenia did not provide the required information on the expected impacts of climate change in Slovenia or an outline of the action taken to implement Article 4, paragraph 1(b) and (e), of the Convention, specifically with regard to cooperation with developing countries on adaptation. The ERT recommends that Slovenia include this information in its next NC submission.

88. In response to a question of the ERT during the review, Slovenia indicated that there has not been much progress in the area of vulnerability and adaptation since NC5. No comprehensive vulnerability assessment was undertaken, but some sectoral or regional risk assessments were undertaken with regard to flood and drought risks. The latter was undertaken as part of a research project related to the Adaptation to Climate Change with Spatial Planning Tools.

89. Table 8 summarizes the information on vulnerability and adaptation to climate change presented in the NC6.

90. As reported in the NC6, Slovenia is preparing a cross-sectoral assessment of climate change risks and opportunities, scheduled to be finalized by mid-2015, which will form the basis for developing the action plan for climate change adaptation. A Strategy for the Adaptation of Slovenian Agriculture and Forestry to Climate Change and Action Plan for 2010–2011 has been adopted and has only been partly implemented during the years 2010 and 2011 owing to lack of public funds.

Table 8
Summary of information on vulnerability and adaptation to climate change

Vulnerable area	*Examples comments adaptation measures reported*
Agriculture and forestry	*Vulnerability*: Agriculture and forestry have been identified by Slovenia to be the most vulnerable sectors. An assessment of drought risk has been undertaken (see below). No substantive information was reported in the sixth national communication (NC6) on any substantive assessment of the vulnerability of forestry to climate change. *Adaptation*: The Strategy for the Adaptation of Slovenian Agriculture and Forestry to Climate Change and Action Plan for 2010–2011 has been adopted; some measures have been implemented.
Biodiversity and natural ecosystems	*Vulnerability*: No vulnerability assessment on biodiversity and natural ecosystems to climate change was reported in the NC6. *Adaptation*: Special protection areas have been designated, and a few projects, including climate change impact analyses, have been carried out.
Drought	*Vulnerability*: Some sectoral or regional risk assessments have been undertaken with regard to drought risk, which was to inform development of a national action plan for drought management on agricultural land. *Adaptation*: Slovenia has hosted the Drought Management Centre for south-eastern Europe since 2006 and it has prepared the national action plan for drought management.
Flood	*Vulnerability*: Some sectoral or regional risk assessments have been undertaken with regard to flood risk, as this is deemed by Slovenia to be a significant risk for some parts of the country. A preliminary flood risk

Vulnerable area	*Examples comments adaptation measures reported*
	assessment has been carried out in line with the floods directive (directive 2007/60/ES), and concrete measures are planned in the new operational programme for the financial period 2014–2020, which is to be implemented with the help of the European Union (EU) Cohesion Fund. *Adaptation*: Selected river basins are to implement anti-flood measures in the future when funds become available. There are currently two ongoing projects of the EU Cohesion Fund financing mechanism in relation to flood defences, which are not yet finished.
Fire and natural disasters	*Vulnerability*: No vulnerability assessment of Slovenia to fire and natural disaster was reported in the NC6. *Adaptation*: Fire risk assessments have been carried with a focus on the natural environment. Slovenia has identified that risk assessments need to be reviewed through a national risk approach with a view to facilitate the planning of preventative measures.
Infrastructure and spatial planning	*Vulnerability*: No vulnerability assessment of infrastructure and spatial planning to climate change was reported in the NC6. *Adaptation*: The Strategy for Spatial Planning recommends including the assessment of the impact of climate strategies in regional development programmes. The project Adaptation to Climate Change with Spatial Planning Tools has been prepared.
Water resources	*Vulnerability*: No vulnerability assessment of water resources to climate change was reported in the NC6. *Adaptation*: The Water Management Plan for the Danube and Adriatic Sea Basins for the 2009–2015 period, including adaptation measures, has been adopted.

91. During the review, Slovenia provided the ERT with additional information on implemented adaptation measures by sector. For example, response measures in the agriculture sector include the establishment of: (a) a system for the collection and processing of data on soil fertility aimed at the better planning of agricultural production; (b) a national computer systems for soil and for the prediction and assessment of damages from drought; and (c) a system for the observation and identification of heat stress in livestock. Furthermore, Slovenia provided the ERT with information on its task to analyse all implemented adaptation measures under the National Strategy for Spatial Planning, adopted in 2004. The outcomes of this assessment, which is ongoing, are to inform the development of a new strategy to cover the period up to 2030.

92. With regard to water management, according to the Water Management Plan for the Danube and Adriatic Sea Basins for the 2009–2015 Period, preparations have recently begun for the Strategy and Action Plan to define response measures for river basin districts. Measures to reduce flood risk are also to be developed with the help of the EU Cohesion Fund and through the new OP GHG-2020 for the financial period 2014–2020.

F. Research and systematic observation

93. Slovenia has provided information on its domestic activities relating to research and systematic observation. The ERT noted than in its NC6, Slovenia did not provide the following reporting elements required by the UNFCCC reporting guidelines on NCs: information on its international activities relating to research and systematic observation, including the World Climate Programme, the International Geosphere–Biosphere Programme, the Global Climate Observing System (GCOS) and the IPCC. The NC6 also

does not reflect actions taken to support related capacity-building in developing countries. The ERT recommends that Slovenia include this information in its next NC.

94. Work towards upgrading the water monitoring system and improving capacities in relation to hydrometeorological forecasting is ongoing and driven by the requirements of the Better Observation for Better Environmental Response project established under the Operational Programme for the Development of Environmental and Transport Infrastructure. Under the auspices of the Research and Development for the Transition to a Low-Carbon Society programme, centres of excellence have been established to promote Slovenia's transition to an energy-efficient economy with low GHG emissions and to identify pathways to achieve a low-carbon society in all priority areas of research and technology development. Furthermore, these centres of excellence have been established to develop and introduce innovative technologies for a sustainable economy, carry forward a number of ongoing EU-funded projects related to climate change adaptation, such as the C3-Alps and Climate Change and Impacts on Water Supply projects, and lead the verification and homogenization of long-term observation time series with information obtained from the Climate Variability in Slovenia project, which is to be used to inform the development of the National Action Plan for Drought Management and Soil Degradation.

G. Education, training and public awareness

95. In the NC6, Slovenia has provided very comprehensive information on its actions relating to education, training and public awareness at both the domestic and international level. As in the NC5, Slovenia provided information on implementation, but with additional information on the monitoring of education and communication activities in the area of climate change and related issues.

96. In its NC6 Slovenia has outlined the specific contributions and support relating to the development and operation of an education and training system by a number of responsible institutions, such as the Ministry of Education, Science and Sport, local communities (municipalities), expert panels appointed by the Government of Slovenia, and institutions established to develop and provide advice on education (e.g. National Education Institute of the Republic of Slovenia, Institute of the Republic of Slovenia for Vocational Education and Training, Slovenian Institute for Adult Education and the National Examinations Centre).

97. Climate change is addressed in several subjects in the context of environmental education, and is introduced at all levels of education within the national curricula, from the primary schools to higher education levels. Special attention is given to the use of an interdisciplinary approach in many studies to ensure a wider overview in addressing environmental protection issues. The implementation of 'global education' activities, aiming to encourage individuals and communities to become active in resolving common challenges, has been the focus for the work of the interministerial working group under the auspices of Ministry of Foreign Affairs.

98. In July 2007, the Ministry of Education, Science and Sport adopted the Guidelines on Education in Sustainable Development from Pre-school to Pre-university Education. The guidelines underline the importance of education on sustainable development and identify the possibilities for implementing sustainable development in the fields of formal, non-formal and informal learning. Analyses related to the integration of education for sustainable development in the education curricula are also conducted. One of the programmes based on education for sustainable development is the Eco-School Programme, which has been assessed as making a great contribution to environmental awareness (717 eco-schools registered in the 2012–2013 academic year).

99. In its NC6 Slovenia reported on international conferences, a series of training programmes delivered by responsible ministries on reducing GHG emissions, including in the area of energy efficiency, and numerous awareness campaigns and related information and bulletins, either published or available online. The report places great emphasis on the broad contribution of non-governmental organizations to the Draft Strategy for Slovenia's Transition to a Low-carbon Society by 2060 and several other projects, such as the Slovenia is Reducing CO_2 (2010–2011) project.

II. Summary of reviewed supplementary information under the Kyoto Protocol

A. Overview of supplementary information under Article 7, paragraph 2, of the Kyoto Protocol

100. Supplementary information provided by Slovenia under Article 7, paragraph 2, of the Kyoto Protocol in its NC6 is mostly complete and transparent. The supplementary information is located in different sections of the NC6. Table 9 provides an overview of supplementary information under Article 7, paragraph 2, of the Kyoto Protocol, as well as references to the NC6 chapters in which this information is provided.

Table 9
Overview of supplementary information under Article 7, paragraph 2, of the Kyoto Protocol

Supplementary information	*Reference to the sixth national communication*
National registry	Chapter 3.4
National system	Chapter 3.3
Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17	Chapter 4.5
Policies and measures in accordance with Article 2	Chapter 4.6
Domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures	Chapter 4.7
Information under Article 10	Chapter 7.1
Financial resources	Not applicable

Note: Reporting on financial resources under the Kyoto Protocol is relevant for developed country Parties and other developed Parties that are included in Annex II to the Convention (Annex II Parties). As Slovenia is not an Annex II Party, it does not have an obligation to provide information on financial resources under Article 11 of the Kyoto Protocol, including on "new and additional" resources.

B. Minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol

101. Slovenia did not report all information requested in section H, "Minimization of adverse impacts in accordance with Article 3, paragraph 14", of the annex to decision 15/CMP.1 as a part of its 2013 annual submission. During the review, Slovenia provided the ERT with additional information on how it strives to implement its commitments under Article 3, paragraph 1, of the Kyoto Protocol in such a way as to minimize adverse social,

environmental and economic impacts on developing country Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention.

102. The 2013 and previous annual submissions and the additional information provided to the ERT during the review outlined several initiatives intended to minimize adverse impacts, including developing technologies, assisting developing country Parties that are highly dependent on the export of fossil fuels in diversifying their economies, and conducting relevant research. The ERT considers the reported information to be mostly complete and transparent. The ERT commends Slovenia for the additional information provided, and recommends that this additional information on how activities being undertaken will minimize adverse social, environmental and economic impacts on developing countries be included in its next NC to improve the completeness of the submission.

IV. Conclusions and recommendations

103. The ERT conducted a technical review of information reported in the NC6 of Slovenia according to the UNFCCC reporting guidelines on NCs. The ERT concludes that the NC6 provides a good general overview of the national climate policy of Slovenia. The information provided in the NC6 includes most elements of the supplementary information under Article 7 of the Kyoto Protocol.

104. Slovenia's total GHG emissions in 2011 were estimated to be 19,509.38 kt CO_2 eq (excluding LULUCF), which is 3.4 per cent below its base year level and 5.8 per cent above its 1990 level. When LULUCF is included, emissions in 2011 (9,890.65 kt CO_2 eq) constituted a 10.2 per cent decrease when compared to the base year, and a 5.4 per cent increase when compared to the 1990 level. The trend in the total GHG emissions was defined by structural changes that occurred in the early 1990s in relation to politics and the economy, with recent trends defined by increases in the service sector share of the Slovenian economy, an increasing demand for energy, and a fast-growing transport sector since Slovenia joined the EU in 2004.

105. In the NC6, Slovenia presents GHG projections for the period from 1990 to 2030. Two scenarios are included: 'with measures' and 'with additional measures'. The projected increases in GHG emissions under the 'with measures' and 'with additional measures' scenarios in 2020 in relation to 1990 levels are 10.3 and 1.1 per cent, respectively. The projected emission decrease under the 'with measures' scenario by 2030 is 3.5 per cent, whereas under the 'with additional measures' scenario, emissions are projected to decrease by 5.7 per cent. Based on the comparison with the target (amounting to 18,726.04 kt CO_2 eq) and the average annual emissions for 2008–2011 (amounting to 19,956.05 kt CO_2 eq), Slovenia is not in a position to meet its Kyoto Protocol target for the first commitment period (8.0 per cent reduction) by emission reductions only. However, it plans to do so by making use of RMUs expected to be issued for its accounting for activities under Articles 3, paragraphs 3 and 4, of the Kyoto Protocol. For the second commitment period of the Kyoto Protocol (2013–2020), Slovenia has committed together with other EU member States and Iceland to achieve the joint target of a GHG emission reduction of 20 per cent by 2020 below the base year level. According to EU decision 406/2009/EC, Slovenia's national target by 2020 for sectors outside the EU ETS is +4 per cent compared with 2005 (a positive limit). Slovenia reported a projection of non-ETS emissions under the 'with measures' scenario of 12,151 kt CO_2 eq by 2020 (i.e. an increase of 0.3 per cent on the 2005 level), and under the 'with additional measures' of 10,450 kt CO_2 eq (i.e. a decrease of 13.8 per cent on the 2005 level).

106. The NC6 contains information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action, although it did not elaborate on supplementarity as such. Slovenia is not planning to make use of the Kyoto Protocol mechanisms to meet its Kyoto Protocol target. However, the NC6 did not include any statements on how Slovenia will achieve its target under the first commitment period of the Kyoto Protocol.

107. Slovenia has in place a strong strategic policy framework (e.g. OP GHG-01, RES AP, EEAP, etc.) that is instrumental in guiding development and implementation of PaMs, particularly with regard to energy supply and transport. Furthermore, Slovenia has allocated substantial financial resources mobilized from a wide range of sources to implement measures. Slovenia is in the process of reviewing and/or updating some of the key programmes, including OP GHG-2020 and the Rural Development Programme.

108. Slovenia is not a Party included in Annex II to the Convention and is therefore not obliged to adopt measures and fulfil obligations as defined in Article 4, paragraphs 3, 4 and 5, of the Convention. The ERT commends Slovenia for providing in its NC6 information on its provision of financial resources, technology transfer, and capacity-building to developing country Parties.

109. The description of climate change impacts, vulnerability and adaptation in the NC6 is largely focused on sectors identified to be vulnerable to the impacts of climate change (agriculture and forestry), and on general action being undertaken to adapt to climate change. Actions being undertaken include completing the cross-sectoral assessment of climate risks and opportunities, including adaptation measures that is to be completed in 2015. Adaptation measures already identified are included in the NC6.

110. Slovenia provided comprehensive information on its education, training and public awareness in the NC6. Activities are undertaken at both the domestic and international level, including the development and operation of education and training system on environmental awareness.

111. Slovenia has provided information on its actions relating to research and systematic observation, but this information is limited to a domestic setting, as the NC6 did not set out relevant activities that Slovenia is involved in at an international level. Slovenia has developed a national meteorological and hydrological network that informs climate variability assessments.

112. Supplementary information under Article 7, paragraph 1, of the Kyoto Protocol on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol is provided by the Party in its 2013 and 2014 annual submissions, and partially submitted in its NC6 submission. Slovenia has developed initiatives intended to minimize adverse impacts, including developing technologies, assisting developing country Parties that are highly dependent on the export of fossil fuels in diversifying their economies and conducting relevant research.

113. In the course of the review, the ERT formulated several recommendations relating to the completeness and transparency of Slovenia's reporting under the Convention and its Kyoto Protocol. The key recommendations[7] are that Slovenia:

(a) Improve completeness of reporting by including in the next NC the following information:

[7] The recommendations are given in full in the relevant sections of this report.

(i) Expected impacts of climate change in Slovenia or an outline of the action taken to implement Article 4, paragraph 1(b) and (e), of the Convention, specifically on its cooperation with developing countries with regard to adaptation;

(ii) Actions relating to research and systematic observation in an international setting, including the World Climate Programme, the International Geosphere–Biosphere Programme, the GCOS and the IPCC;

(iii) How it gives priority to the actions taken in implementing its commitments under Article 3, paragraph 14, of the Kyoto Protocol;

(b) Improve the transparency of reporting by including in the next NC the following information:

(i) More details on how it coordinates compliance with the requirements under the Convention and the Kyoto Protocol;

(ii) Clear details that set out how Slovenia achieved its target under the first commitment period of the Kyoto Protocol.

V. Questions of implementation

114. During the review, the ERT assessed the NC6, including supplementary information provided under Article 7, paragraph 2, of the Kyoto Protocol and reviewed information on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol, with regard to timeliness, completeness, transparency and adherence to the reporting guidelines on NCs. No question of implementation was raised by the ERT during the review.

Annex

Documents and information used during the review

A. Reference documents

"Guidelines for the preparation of national communications by Parties included in Annex I to the Convention. Part II: UNFCCC reporting guidelines on national communications". FCCC/CP/1999/7. Available at <http://unfccc.int/resource/docs/cop5/07.pdf>.

"Guidelines for the preparation of national communications by Parties included in Annex I to the Convention. Part I: UNFCCC reporting guidelines on annual inventories". FCCC/CP/1999/7. Available at <http://unfccc.int/resource/docs/cop5/07.pdf>.

"Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol". Decision 15/CMP.1. Available at <http://unfccc.int/resource/docs/2005/cmp1/eng/08a02.pdf#page=54>.

"Guidelines for review under Article 8 of the Kyoto Protocol". Decision 22/CMP.1. Available at <http://unfccc.int/resource/docs/2005/cmp1/eng/08a03.pdf#page=51>.

"Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention". Annex to decision 23/CP.19. Available at <http://unfccc.int/resource/docs/2013/cop19/eng/10a02.pdf#page=20>.

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FCCC/IRR/2007/SVN. Report of the review of the initial report of Slovenia. Available at <http://unfccc.int/resource/docs/2007/irr/svn.pdf>.

FCCC/IDR.5/SVN. Report of the in-depth review of the fifth national communication of Slovenia. Available at <http://unfccc.int/resource/docs/2011/idr/svn05.pdf>.

Sixth national communication of Slovenia. Available at <http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/6nc-si_en_v.2.pdf>.

2013 GHG inventory submission of Slovenia. Available at <http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/7383.php>.

2014 GHG inventory submission of Slovenia. Available at <http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/8108.php>.

B. Additional information provided by the Slovenia

Responses to questions during the review were received from Mr. Andrej Kranjc (Ministry of Agriculture and the Environment), including additional material on updated policies and measures, greenhouse gas projections, the national registry and recent climate policy developments in Slovenia.